UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
BOOKSTACKS

Digitized by the Internet Archive
in 2011 with funding from
University of Illinois Urbana-Champaign

http://www.archive.org/details/centuryofswedish776brem

330
B385
no. 776
Cop. 2

20-131

BEBR

FACULTY WORKING
PAPER NO. 776

A Century of Swedish Transformation: A Symposium

Hans Brems

College of Commerce and Business Administration
Bureau of Economic and Business Research
University of Illinois, Urbana-Champaign

330.9483
B75e
Cop. 2

BEBR

The person charging this material is responsible for its return to the library from which it was withdrawn on or before the **Latest Date** stamped below.

Theft, mutilation, and underlining of books are reasons for disciplinary action and may result in dismissal from the University.

To renew call Telephone Center, 333-8400

UNIVERSITY OF ILLINOIS LIBRARY AT URBANA-CHAMPAIGN

L161—O-1096

FACULTY WORKING PAPER NO. 7

College of Commerce and Business Adm

University of Illinois at Urbana-Cl

May 1981

A Century of Swedish Transformation: A

Hans Brems, Professor
Department of Economics

This is a book review, written for the *Journal of Economic Literature*, of a recent symposium volume on a century of Swedish transformation.

A CENTURY OF SWEDISH TRANSFORMATION: A SYMPOSIUM

Hans Brems

Industriell utveckling i Sverige. Teori och verklighet under ett sekel. (Industrial Development in Sweden. A Century in Theory and Reality). By Erik Dahmén and Gunnar Eliasson (eds.). Stockholm: Almqvist & Wiksell International, 1980. Pp. 407. ISBN 91-7204-119-6.

As stated in its opening paragraph, the purpose of this stately volume is twofold: (1) to describe and measure the transformation of the Swedish economy over the past century, and (2) to interpret the findings. Neither neoclassical economic theory———whether dealing with general, partial, or steady-state growth equilibria———nor modern macroeconomic theory was designed for such interpretation. But Schumpeterian (1912) theory was designed for it.

Is there anything particularly Schumpeterian

about Sweden in the past century? Perhaps there is.

First, in the first half of that century a small number of large Swedish corporations were founded by innovators so successful that Sweden itself was soon too small for them. In 1974 the twenty largest Swedish multinationals had 1/4 million employees inside Sweden———and another 1/4 million outside! Their predominant industries are machinery, electric and electronic equipment, and their predominant hosts are West Germany, France, and the United States (SKF is larger than Timken). Swedish-owned subsidiaries abroad are worth three times as much as foreign-owned subsidiaries in Sweden [Nils Lundgren (1979, 210-211, 239)]. The most comprehensive application of Schumpeterian theory besides Schumpeter's own (1939) was Erik Dahmén's (1950) analysis of Swedish entrepreneurship.

Second, Schumpeter (1942) believed that the very efficiency of capitalism would make room for the welfare state and, perhaps, for socialism. No-

where did Keynesian macroeconomic theory appear as early as in Sweden: Ohlin was a Keynesian three years before Keynes himself [Brems (1978)]. Nowhere under capitalism was the public sector to become as massive as in Sweden. But also: Nowhere under capitalism was the decline of industrial production after the oil and food shocks of the mid-seventies as protracted as in Sweden: Large industrial economies as a whole surpassed their 1974 level in 1977, Sweden not until 1980.

The contributions by the two editors, both preceded by Schumpeter quotes, are long on methodology and the history of economic thought. In addition, and assisted by Anders Rydeman, Gunnar Eliasson offers four very readable Swedish case histories, i. e., Atlas Copco, L. M. Ericsson, Sandvik, and Mo och Domsjö. All four firms owed their success to consistent innovation.

More generally, structural transformation is examined by Märtha Josefsson and Johan Örtengren———judged by the rich photography, the latter bears an even physical resemblance to the Schumpeter of *circa* 1912. The

idea is that in a market economy, transformation pressure manifests itself in the form of price signals: Whether originating on the demand side or on the supply side and whether upward or downward, a changing relative price of the product of an industry signals the need for transformation of that industry. Disaggregating Swedish manufacturing industry into 42 individual industries, Josefsson and Örtengren measure the economy-wide transformation pressure from time τ to time t as the weighted sum of the numerical relative price changes of n individual industries. The relative changes should, and do, enter with their numerical value, because upward and downward changes alike signal a transformation pressure. The measure, whose dimension is per cent per annum, is

$$1/(t - \tau) \sum_{i=1}^{n} \sigma_i(\tau) \left| \frac{P_i(t)/P_i(\tau)}{P(t)/P(\tau)} - 1 \right|$$

where $P_i \equiv$ price of ith industry, $P \equiv$ price of all manufacturing, and $\sigma_i \equiv$ ith industry's share of the value of all manufacturing. So the economy-wide transformation pressure is high when relative price changes are diverse among industries and low when they are not. Josefsson and Örtengren found exceptionally high transformation pressures for the first halves of the twenties, forties, fifties, and seventies.

Did industry heed the signals? Josefsson and Örtengren measure the economy-wide transformation response from time τ to time t as the weighted sum of the numerical relative physical-output changes of n individual industries. The relative changes should, and do, enter with their numerical value, because upward and downward changes alike indicate a transformation response. The measure, again in per cent per annum, is

$$1/(t - \tau) \sum_{i=1}^{n} \sigma_i(\tau) \left| \frac{Q_i(t)/Q_i(\tau)}{Q(t)/Q(\tau)} - 1 \right|$$

where $Q \equiv$ physical output. In other words, the economy-wide transformation response is high when relative physical-output changes are diverse among industries and low when they are not. The exceptionally high transformation pressures found for the first halves of the twenties, forties, and fifties were found to be duly accompanied by high transformation responses. But the signals of the seventies went unheeded: There was high transformation pressure but no unusual transformation response.

In 42 impressive diagrams, Josefsson and Örtengren trace relative price, absolute physical output, and share of industry for the 42 industries 1913-1977. Each decade's losers and winners are recorded. The overall losers were saw mills, textiles, and mining. The overall winners were the electrical industry, machinery, chemicals, and transportation equipment.

The fifties and sixties were the heyday of what

has been called the Swedish model of transformation. The Swedish model was a successful piece of teamwork by industry, labor, and government, and Ulf Jakobsson and Lars Wohlin illustrate its workings by a vintage model of growth. Industry responded to a rapidly rising real wage rate by looking for———and designing ———ever better new vintages and by retiring old ones ever earlier. Elsewhere in the volume Ragnar Bentzel shows that in 1960-1965 and 1965-1970 the labor productivity of manufacturing industry was growing by 6.2 and 6.0 per cent per annum, respectively, and that the capital intensity of manufacturing industry was growing by 7.6 and 5.1 per cent per annum, respectively! Unions cooperated by favoring new technology, by refusing to accept wage differentials among firms or among industries, and by keeping up the wage pressure. The government cooperated in two ways. First by adopting a labor market policy giving greater emphasis on geographical mobility than did any other country, thus helping to resettle labor released

from old vintages, old plants, and old industries. Second, the government cooperated by expanding the public sector more than did any other country, thus helping to absorb labor released from old vintages, old plant, and old industries but not needed in new ones. The public sector expanded in the form of larger transfer payments, better health care, and better education but, for forty-odd years of labor government, never in the form of nationalization of industry.

All good things come to an end, and so did the Swedish model. The relatively ever larger public sector superimposed on a relatively ever smaller manufacturing base made the Swedish economy vulnerable to the oil and food shocks. This time the transformation signals went unheeded, and the nonlabor coalition government coming to power in 1976 tried to save jobs by nationalization and Chrysler-type bail-out schemes.

Defying the Schumpeterians, Ragnar Bentzel simulates Swedish growth 1870-1975 by a putty-clay model whose only disaggregation is the disaggregation of capital stock in-

to vintages. Such disaggregation is important to Bentzel, but not because old vintages would have to be retired before new *technology* can be adopted: Technological progress is disembodied and labor-augmenting. Rather, disaggregation is important to him, because in a putty-clay model old vintages must be retired before capital-labor *substitution* can occur. Bentzel finds his capital-output ratio to have remained the same for as long as the rate of interest remained the same, i. e., 1870-1930, 1935-1950, and 1955-1970. The capital-output ratio jumped three times in response to a lower rate of interest, i. e., 1930-1935, 1950-1955, and 1970-75. As a result, maintaining the high rates of growth of output of the fifties and sixties would now require a much higher investment fraction of output. For that and other reasons Bentzel agrees with Abramovitz (1977) that it was the fifties and the sixties rather than the seventies that were exceptional. Bentzel's emphasis on the rate of interest as a determinant of the capital-output ratio enhances the significance of another contribution to the symposium, i. e., Ingemar Ståhl's

measurement of the Swedish nominal rate of interest, rate of inflation, and real rate of interest.

The symposium lives up to its subtitle "A Century in Theory and Reality". The occasion was the eightieth birthday of Marcus Wallenberg, Sweden's most prominent living innovator and for 25 years chairman of the board of Sweden's counterpart to our National Bureau, *Industriens Utredningsinstitut*. All participants were past or present members of the staff of that institute.

HANS BREMS

University of Illinois

REFERENCES

ABRAMOVITZ, MOSES. *Rapid Growth Potential: The Experience of Capitalist Economies in the Post-War Period*, Fifth World Conference of the International Economic Association. Tokyo, 1977.

BREMS, HANS, "What was New in Ohlin's 1933-34 Macroeconomics?" *Hist. Polit. Econ.*, Fall 1978, *10*(3).

pp. 398-412.

DAHMÉN, ERIK. *Svensk industriell företagarverksamhet.* Stockholm, 1950, translated by Axel Leijonhufvud for the American Economic Association as *Entrepreneurial Activity and the Development of Swedish Industry. Homewood, Ill., 1970.*

LUNDGREN, NILS, "Internationella koncerner och löntagarfonder," *Löntagarna och kapitaltillväxten*, 2. Stockholm, 1979, pp. 197-242.

SCHUMPETER, JOSEPH ALOIS. *Theorie der wirtschaftlichen Entwicklung.* Leipzig, 1912, translated by Redvers Opie as *The Theory of Economic Development.* Cambridge, Mass., 1954.

————————, *Business Cycles.* New York, 1939.

————————, *Capitalism, Socialism, and Democracy.* New York, 1942.

END

HECKMAN
BINDERY INC.
JUN 95
Bound-To-Please® N. MANCHESTER,

UNIVERSITY OF ILLINOIS-URBANA
3 0112 060296206